DOCUMENT RESUME

ED 170 535 CE 020 645

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TITLE Participation In a Career Decision-Making Program: Obtaining Predictors from an Analysis of Readily Available Data.
INSTITUTION Alma Coll., Mich.
NOTE 20p.; Paper presented at the American Education Research Association Annual Meeting (San Francisco, California, April 8-12, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Career Choice; *Career Planning; *College Students; Comparative Analysis; *Decision Making; Differences; Participant Characteristics; *Participant Involvement; *Predictor Variables; Statistical Studies; *Student Characteristics
IDENTIFIERS Alma College MI; Michigan

ABSTRACT

A study was designed to investigate the possibility that college students who participate in career decision-making (CDM) programs differ from the general college population in ways unrelated to their CDM status. This exploratory hypothesis was tested by determining, first, whether a regression equation could be constructed using readily available entrance data which would account for a significant amount of CDM program participation, and, second, whether this equation would continue to account for a significant amount of variance when applied to a cross-validation sample from a subsequent year. The standardization regression equation was based on data on 235 students in the class of 1980 at Alma College (Michigan). Several variables which represented the subjects' CDM status, or need for help with CDM, were included in the set of predictor variables. The study demonstrated that participation in a CDM program can be reliably predicted using a small set of variables from readily available data. A regression equation using ten variables accounted for 24% of the variance in program participation for the class of 1980. When this regression equation was applied to a sample from the class of 1981, the result remained significant. The results suggest that there are predictors of CDM program participation beyond those predictors which are directly related to CDM. Also, a hierarchical regression analysis determined that predictors of enrolling in a CDM program can be differentiated from predictors of amount of participation once in the program. (Author/BM)

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ED170535

Session 31.10

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ABSTRACT

This study demonstrated that participation in a career decision-making (CDM) program can be reliably predicted using a small set of variables from readily available entrance data. A regression equation using 10 variables from the ACT profile and the CIRP survey accounted for 24% of the variance in program participation for the class of 1980. When this regression equation was applied to a sample from the class of 1981 the result remained significant. The results suggest that there are predictors of CDM program participation beyond those predictors which are directly related to CDM. Also, a hierarchical regression analysis determined that predictors of enrolling in a CDM program can be differentiated from predictors of amount of participation once in the program.

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PARTICIPATION IN A CAREER DECISION-MAKING PROGRAM: OBTAINING PREDICTORS FROM AN ANALYSIS OF READILY AVAILABLE DATA *

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This study was designed to investigate the possibility that college students who participate in career decision-making (CDM) programs differ from the general college population in ways unrelated to their CDM status. This exploratory hypothesis was tested by determining, first, whether a regression equation could be constructed using readily available entrance data which would account for a significant amount of variance in CDM program participation, and, second, whether this equation would continue to account for a significant amount of variance when applied to a cross-validation sample from a subsequent year. Several variables which represented the subjects' CDM status, or need for help with CDM, were included in the set of predictor variables so that their contribution to the prediction equation might be compared with that of background variables unrelated to CDM. An additional analysis was used to determine whether predictors of enrolling in a CDM program could be differentiated from predictors of amount of participation once in the program.

The process of career decision making (CDM) has been studied as it occurs in the population of interest (college students) by a number of researchers (Tiedeman and O'Hara, 1963; Super and Bachrach, 1957; Ginzberg et al, 1951; Roe, 1956; Holland, 1966; among others). With the exception of several recent studies (Norris, Katz and Chapman, 1978; Gribbons and Lohnes, 1968; Jepsen, 1975) most research, though trying to examine the process of CDM, has focused on the status of decision makers at a particular time, and has related career-relevant choices or preferences to antecedent or concurrent characteristics of the decision makers. On the basis of measurements taken either once or on successive occasions, and of self-reports about the reasoning behind decisions, researchers have inferred

*Presented at the AERA Annual Meeting, April, 1979, San Francisco, California

the nature of the CDM process. Verification of the degree to which subjects had actually engaged in purposeful CDM was difficult, if not impossible, in these early studies. Now that self-recording computer programs such as ETS'S System of Interactive Guidance and Information (SIGI) are available to provide a sort of "window" on CDM as it occurs, the process itself can be examined. However, even this close observation of the CDM process does not provide information about the nature of students who engage in purposeful CDM. For example, in explaining the nature of the sample used in their study, Norris, Katz, and Chapman (1978, p.63) state: "There is little reason to suspect that SIGI users differ from the general college population in ways unrelated to career decision-making; no special screening procedures were used nor were special incentives provided. Therefore, our sample is likely to be a good representation of the population of college students who are ready and willing to engage in career decision-making activities." The present study is concerned with the question of whether students who are "ready and willing to engage in career decision-making activities" differ from the general college population in ways unrelated to career decision-making.

This question about systematic differences between "willing participants" and the general college population would not have its current importance were it not for the recent trend toward the prescriptive mode in the area of CDM education. That is, educators have moved from describing the CDM process to prescribing ways to improve students' progress through it. This trend can be seen in the tremendous increase in the number of courses and programs in career planning and decision-making offered on college campuses across the nation. According to a recent survey (Haney and Howland, 1978) courses in CDM were being offered for credit at 353 colleges. This trend in higher education is well matched by the "career education" movement in grades K-12 (Hoyt, 1975). These programs and courses are evidently being offered in response to the expressed needs of students. For example, in a nationwide study involving 32,000 high school students, three-fourths said they "would like help" with career planning (Prediger, Roth and Noeth, 1973).

However, despite the apparent match of programs to needs, there are

signs of difficulty. There is some evidence that not all of those students saying they "want help" with CDM will take advantage of that help if it is offered. Thoresen and Ewart (1976, p. 29-30) say that "'deciding by not deciding' is more the norm than the exception." and that "trying to make career related decisions in a systematic fashion can involve stressful and personally threatening experiences--ones that we often avoid by letting things 'take their natural course'." This image of decision making as stressful is also presented by Janis & Mann (1977) who indicate that the sort of "optimizing" decision-making advocated by CDM programs is frequently avoided, even by those who reach an awareness that a decision needs to be made. Irwin (1974), in an attempt to explain the poor attendance at outreach CDM programs, found that while students rated their need to learn about careers as very high, when asked how they would be most likely to spend an evening they gave their lowest rating to "attending a session on careers."

If CDM is anxiety provoking for some students, and if students are saying they are unlikely to attend CDM programs, could CDM courses and programs be reaching only a special segment of students? Is there reason to look for interaction between the aptitudes of those who do attend CDM programs and the treatment they receive, the kind of Aptitude Treatment Interaction (ATI) that Cronbach (1975) has suggested researchers look for in evaluating the effects of instructional programs? If the answer to these questions is yes, it is important that those providing CDM programs be aware of it so that they can design their programs accordingly. In addition, researchers studying the CDM programs need to recognize that participants may differ from the general population. However, because information on students who don't participate is often unavailable, it is difficult to conclude that they are not participating because of an unwillingness to do so. A number of other explanations for failure to participate present themselves: scheduling conflicts; lack of information about the program; off-campus living or working arrangements; a definite career choice in a specialized field; or the lack of attractive career alternatives from which to choose. Since, for Alma College's CDM program, these explanations for non-participation can be excluded, the present study was conducted using data on Alma

students.

The Career Preparation Program (CPP) at Alma College, a medium selectivity liberal arts college of 1200 students in the middle of Michigan's lower peninsula, appears to offer a unique opportunity to study the response of college students to an offer of help in improving their CDM skills. The nature of the college, its students, and the CDM program offered at Alma, combine to provide a situation akin to a laboratory experiment in the responses of college students to CDM programs. First, the CPP is completely voluntary, so that students who do attend are more likely to truly represent "willing participants" than those taking a course who might do so because they need credits. Volunteers would certainly be more representative of "willing participants" than students required to take part in CDM programs. Moreover, all entering freshmen are advised of the opportunity to participate in the CPP, and the size of the college, and the nature of the publicity given to the CPP. virtually assures that all freshmen are aware of the CPP. Thus ignorance of the CDM program is excluded as an explanation for failure to participate. Also, the CPP is scheduled so that conflicts with other activities are minimal. Students are not forced to choose between the CPP and course work or other extra-curricular activities. Since Alma is a residential college, students are not kept from participating in the CPP because of commuting. Finally, the CPP is a comprehensive program, designed to move students through a developmental sequence spanning their four years at college. Thus participants have a chance to learn CDM skills at a point where these skills can be used in making important career decisions with a variety of options still available. That is, if a CDM program is offered to a junior, it is far less likely to help the student in deciding on courses or a major than if such a program is offered to a freshman. Thus a willingness to participate in the CPP can be seen as representing a willingness to engage in the CDM process rather than in some more short-range decision-making process such as choosing a job or graduate school.

Second, the nature of Alma College and its students helps to create a situation designed to reveal the characteristics of "willing participants." Since Alma is a liberal arts college, without specialized curricula such as

engineering and nursing, it does not require entering freshmen to specify their major. In fact it attracts many students whose career choices are not at all crystallized, who are, indeed, fairly vague about their career plans. Alma is a medium-to-high selectivity college (the average ACT composite score is usually just above 23). This means that, in general, Alma's students have abilities and educational backgrounds that allow them to succeed in a great many attractive occupations. Thus Alma students are again encouraged by their circumstances to be "willing participants" because they can actually make use of CDM skills to choose among real alternatives. Whereas many young people can eschew CDM skills training as irrelevant on the grounds that they haven't any real career choices and must take whatever job is available, Alma students do have real choices. The notion that students at Alma have real options is further supported by the financial backing they can expect from their families in pursuing whatever career they choose. The parents of 72% of Alma students have an income of $15,000 or more compared to 58% of the parents of students from colleges nationwide (1976 CIRP results).

Thus a variety of circumstances combines to put Alma students in the apparently enviable position of being able to choose almost any career path that appeals to them and of having the opportunity to learn ways of optimizing these career decisions. Even under these, in some sense 'ideal', conditions for learning CDM skills, not all students enroll in the CPP, and, of those enrolling, not all participate for the same amount of time. Since information on a variety of characteristics was gathered from the students before they decided whether to participate in the CPP, it has been possible to determine how entrance data relate to subsequent participation.

METHOD

Subjects

The standardization regression equation was based on data on 235 students in the class of 1980 at Alma College for whom complete information was available. The data were collected from these students in their last two years of high school in the case of the American College Testing (ACT) profile, and during their first week of college in 1976 in the case of the Cooperative

Institutional Research Program (CIRP) survey. The number of males and females in the sample was almost exactly equal, 114 and 121 respectively.

The cross validation sample was made up of 248 students with complete cases from the class of 1981 at Alma College. The ACT and CIRP data were collected at the same points for this sample. Fifty-five percent of this sample was female.

The Dependent Variable

"Participation in a CDM program" was operationalized as number of hours of participation in workshops offered as a part of the Career Preparation Program (CPP) at Alma College. The CPP, after a pilot test in 1975-1976, was offered to all entering freshmen starting in the fall of 1976. Both samples have thus had an opportunity to participate in the CPP for at least 1½ years. The CPP was designed as a four-year developmental program to introduce, teach, and supervise students in the use of improved CDM skills. Funded by the Kellogg Foundation and the Office of Education, the major activities of the CPP are workshops, but discussion sessions with alumni, computerized career guidance systems and an extensive multi-media career information center are also included. Number of hours of workshop participation was chosen as the dependent variable because attendance data was available, and because participation in other activities involves less intentionality on the part of the student.

Analysis

From the 321 potential predictors contained in the ACT and CIRP data, correlations were computed on 104 because of their apparent relationship to the criterion. The 40 variables with the highest correlation to the dependent measure were selected for use in subsequent regression analyses Table 1 contains the correlation matrix of these variables and the dependent measure.

Polynomial curve fitting was used on 12 variables where initial results, or theory, suggested a curvilinear relationship. The correlation of only one variable, the English score from the ACT profile, was improved by a second order polynomial curve fitting. The ACT English variable was therefore transformed before being entered into the regression equation.

TABLE 1

ZERO-ORDER CORRELATIONS BETWEEN PREDICTORS AND THE CRITERION FOR BOTH SAMPLES

Variable	Source	Name	Correlation with CPP Participation: Standardization (Class of 1980) n=235	Cross validation (Class of 1981) n=248
English score	ACT	ENG	.12	.23
Mathematics score	ACT	MATH	.15	.10
Social studies score	ACT	SS	.14	.14
Natural sciences score	ACT	NS	.10	.12
Composite score	ACT	COMP	.16	.17
Educational aspirations	ACT	EDASP	-.10	.10
High school rank	ACT	HSRANK	-.13	-.05
High school grade average	ACT	HSAVE	.19	.18
Business detail interest inventory score	ACT	BDINT	.14	.13
Science interest inventory score	ACT	SCINT	.16	.06
High school music accomplishments	ACT	MUSICAC	.11	-.005
High school writing accomplishments	ACT	WRITNGAC	.10	.02
High school athletic accomplishments	ACT	ATHLAC	-.23	-.15
Extracurricular activities	ACT	EXTRA	.10	.14
Want help in educational/vocational planning	ACT	EDVOC	.15	.09
Sex (1 = male, 2 = female)	CIRP	SEX	.14	.17
Average high school grade	CIRP	AVEHS	.19	.32
Expected need for remedial work in math	CIRP	REMMATH	-.12	-.11
Expected need for remedial work in social studies	CIRP	REMSS	-.11	-.02
Going to college to be able to make more money	CIRP	MONEY	-.14	-.07
Mother's level of education	CIRP	MOMED	.14	.08
Choosing college because not accepted elsewhere	CIRP	NOTACC	-.09	.004
Choosing college for special educational programs	CIRP	EDPROG	.08	.25
Choosing college to be able to live at home	CIRP	ATHOME	-.19	-.005
Personal importance of being very well off financially	CIRP	FINANCE	-.06	-.08
Personal importance of making a theoretical contribution to science	CIRP	CONTRIB	.13	-.04
Personal importance of writing original works	CIRP	WRITE	.17	.11
Personal importance of creating artistic work	CIRP	CRART	.14	.03
Personal importance of participating in a community action program	CIRP	COMACT	.19	.06
Likelihood of being elected to an academic honor society	CIRP	HONORSOC	.20	.07
Likelihood of making at least a "B" average	CIRP	BAVE	.15	.20
Likelihood of seeking vocational counseling	CIRP	VOCCOUN	.17	.06
Self-rating of academic ability	CIRP	ACADSR	.24	
Self-rating of athletic ability	CIRP	ATHSR	-.19	
Self-rating of leadership ability	CIRP	LEAD	-.09	These scales not included in the CIRP given the Class of 1981
Self-rating of physical attractiveness	CIRP	PHYATT	-.07	
Self-rating of popularity	CIRP	POP	-.15	
Self-rating of popularity with the opposite sex	CIRP	POPSEX	-.21	
Self-rating of intellectual self-confidence	CIRP	SFCINT	.12	
Self-rating of understanding of others	CIRP	UNDOTH	.03	

The 40 variables, including the transformed variable substituting for the ACT English, were used in a stepwise regression analysis of the standardization sample data. A regression equation was developed using the eight variables which made a significant contribution to the explanation of variance in CPP participation. The procedures used to develop the standardization regression equation capitalize on chance in several ways (Cohen & Cohen, 1975). To determine whether the regression model was reliable it was necessary to apply it to another sample. Since information which would predict CDM program participation from year to year would be most helpful to CDM program planners and would offer the strongest support for the hypothesis that "willing participants" differ systematically from the general college population, the class of 1981 was chosen as the cross-validation sample. In the process of preparing to apply the standardization regression equation to the cross validation sample, it was discovered that several of the key variables had not been included in the CIRP survey given to the class of 1981. This necessitated repeating the stepwise regression analysis without these "missing" variables, producing a second regression equation which explained less criterion variance and used two more predictors.

This second regression equation was applied to the cross-validation sample to determine how much of the criterion variance it would explain and whether the amount explained would be significant.

Finally, the same predictor variables appearing in the second standardization regression equation were used in a stepwise regression analysis of the criterion variance in the cross-validation sample. This was done to determine how much criterion variance would be explained when the regression coefficients were derived from the cross-validation sample instead of the standardization sample.

A discrepancy was noted between the fact that 60% of those enrolled in the CPP in the standardization sample were female, and the absence of SEX from either of the regression equations predicting amount of CPP participation. To investigate this discrepancy a hierarchical regression analysis was performed with enrollment in the CPP as the criterion.

RESULTS AND DISCUSSION

As can be seen in Table 1 the correlations between predictors and criterion were not high for either sample, the highest being "self-rating of academic ability" at r=.24. The small size of the correlation coefficients may be partially explained by the homogeneity of the sample. It is also likely that paper-and-pencil measures do not bear as strong a relationship to a behavioral variable such as hours of participation as they do to other paper-and-pencil measures such as achievement tests.

The ACT English variable, transformed because of its curvilinear relationship to the criterion, did not add a significant amount to the criterion variance accounted for in the stepwise analyses. There did not appear to be any important curvilinear relationships between the predictors used in this study and the criterion.

In the first regression equation developed on the data from the class of 1980 (the standardization sample), eight variables accounted for 27% of the variance in CPP participation. These variables, their regression coefficients (beta weights) and computed t-statistics, and the amount of variance each accounts for uniquely, are listed in Table 2. Although this first regression equation could not be tested for validity by applying it to another sample because several predictors were not available for the cross-validation sample, it did explain a significant amount of variance, $F(8,226)=9.87$, $p<.01$, in the criterion for the standardization sample.

When a stepwise regression analysis was done on the standardization sample without the variables missing from the 1981 CIRP, it took 10 variables to explain 24% of the variance in CPP participation. The characteristics of this second equation developed from the standardization sample are presented in Table 3.

Some of the predictor variables in this second equation are new because ACADSR and POPSEX, the variables which were not included in the CIRP survey given to the cross-validation sample, have not been permitted to enter the stepwise regression analysis procedure. It is apparent, from the size of both the R^2 and the unique contributions made by the predictors, that the second regression equation does not have as much explanatory power as the

TABLE 2

THE FIRST REGRESSION EQUATION DEVELOPED ON THE STANDARDIZATION SAMPLE PREDICTING AMOUNT OF CPP PARTICIPATION

Variable	Regression Coefficient	Standard Error	Beta Weight	t-statistic	Unique Contribution	F value+ to enter
ACADSR	2.14	.467	.270	4.58**	.05	12.07
POPSEX	-2.04	.442	-.271	-4.60**	.07	15.90
COMACT	1.66	.462	.213	3.60**	.05	11.94
EDASP	- .80	.357	-.133	-2.26*	.02	4.62
CONTRIB	.95	.416	.136	2.30*	.02	4.78
REMSS	-5.74	2.19	-.152	-2.61**	.02	4.77
BDINT	.50	.191	.157	2.63**	.02	4.50
MONEY	-1.60	.518	-.184	-3.09**	.03	7.10

$R = .51$ $R^2 = .27$

*Statistically significant at the .05 level.
**Statistically significant at the .01 level.

+$F_{.05} = 2.26$ $F_{.01} = 3.11$

TABLE 3

THE SECOND REGRESSION EQUATION DEVELOPED ON THE STANDARDIZATION SAMPLE PREDICTING AMOUNT OF CPP PARTICIPATION

Variable	Regression Coefficient	Standard Error	Beta Weight	t-statistic	Unique Contribution	F-value+ to enter
AVEHS	.75	.304	.151	2.48**	.04	9.80
COMACT	1.14	.457	.149	2.49**	.04	8.51
ATHLAC	- .55	.174	- .194	-3.18**	.03	6.70
BDINT	.68	.188	.224	3.62**	.03	6.12
ATHOME	-3.19	1.40	- .134	-2.28*	.02	5.55
EDPROG	1.08	.490	.133	2.22*	.02	5.72
MONEY	-1.25	.526	- .144	-2.37*	.02	4.70
CONTRIB	.75	.429	.109	1.75	.02	4.96
WRITE	.85	.416	.123	2.04*	.01	3.59
REMSS	-5.59	2.21	- .149	-2.53**	.02	4.28

$R = .49$ $R^2 = .24$

*Statistically significant at the .05 level.
**Statistically significant at the .01 level.

+$F_{.05} = 2.26$, $F_{.01} = 3.11$

first. The fact that five of the variables in the second equation were also in the first equation, and that several of the "new" predictors are related to the now 'missing" variables that were in the first equation does suggest that the relationships are not artificial. ACADSP appears to have been replaced by AVEHS with which it correlates positively (r =.58) and ATHLAC may be partially replacing POPSEX (r =.31).

EDPROG is the only predictor in either equation which could in any way represent a "career-related way" in which participants differ from the college population in general. The CPP could well be the "special educational program" which encouraged a student to choose Alma College. That such a student would then participate in the CPP seems reasonable. If this interpretation is correct, it does not disconfirm the hypothesis that "willing participants" differ from the general college population in ways unrelated to CDM. The presence of EDPROG as a predictor might mean that CDM program participants differ from the college population in ways related to CDM as well as in ways unrelated to CDM.

The fact that variables like "I would like help in educational/vocational planning" (EDVOC) or "I will probably seek vocational counseling" (VOCCOUN) which appear to be directly related to CDM do not appear in the final regression equations at all, brings into question the contention that CDM program participants are most likely to differ from the general college population in ways related to CDM. If CDM program participation were a function of expressed need for help in CDM, it would seem that variables such as EDVOC and VOCCOUN would be important predictors of participation.

Cross Validation

When the regression equation described in Table 3 was applied to the data from the class of 1981 it explained 10% of the variance, a result that was significant, $F(1,246)=28.55$ $P<.001$. This represents a loss in variance-accounted-for of 14% and indicates that the regression equation should not be used for selection purposes (Kerlinger and Redhazur, 1973). However, the significance of the result does offer support for the hypothesis that participation in a CDM program is related systematically to background variables. Moreover, the predictor variables do not, with the possible exception

of EDPROG, appear to be career-related.

In an attempt to further check the stability of the predictors, a stepwise regression analysis was performed on the 1981 data permitting any of the 32 possible predictors to enter. (There were 32 instead of the 40 used on the class of 1980 since the series of questions not included in the CIRP given to the class of 1981 had to be omitted.) The results of this analysis are presented in Table 4. The zero order correlation coefficients are in Table 1.

This new regression equation, based on the class of 1981, explains a significant amount of variance ($F(4,243)=12.60$, $p<.001$) and does so with predictors found in the 1980 equation. Apparently, the predictors, if not their exact weights, are reliably related to the criterion for Alma College students.

Regression Analysis of Enrollment

In the hierarchical regression analysis of CPP enrollment (Cohen, 1975) SEX was stepped in first and the remaining variables were permitted to enter according to their F values. The resulting equation is presented in Table 5.

To determine the influence of sex as a predictor, a second regression analysis was performed in which all the variables were permitted to enter according to their F values. While SEX had an initial F value of 10.29, the fourth highest in the set of predictor variables, it did not appear in the regression equation because of its correlation with other predictors. The equation resulting from this stepwise regression analysis appears in Table 6.

Apparently the variance that sex accounts for is not unique but can be explained by other variables. However, forcing sex into the equation does indicate that it is in a cooperative suppressor relationship with at least one other predictor (Cohen, 1975), probably SFCINT.

Although the regression analyses of CPP enrollment were designed to investigate the importance of sex, the relationship of EDVOC to enrollment was the more important result. EDVOC represents a variable directly "related to CDM." If it had appeared in the regression equations predicting CPP participation it would have been counted toward disconfirmation of the

TABLE 4

THE REGRESSION EQUATION DEVELOPED ON THE CROSS VALIDATION SAMPLE PERMITTING PREDICTORS FROM THE SET OF 32 POSSIBLE PREDICTORS TO ENTER ACCORDING TO THEIR UNIQUE CONTRIBUTION TO VARIANCE ACCOUNTED FOR

Variable	Regression Coefficient	Standard Error	Beta Weight	t-statistic	Unique Contribution	F-value+ to enter
AVEHS	1.47	.34	.262	4.32**	.11	29.92
EDPROG	1.84	.56	.196	3.28**	.04	11.36
ATHLAC	- .48	.20	-.143	-2.40*	.01	4.21
BDINT	.53	.24	.133	2.21*	.02	5.01

R = .42 R^2 = .18

TABLE 5

REGRESSION EQUATION DEVELOPED ON THE STANDARDIZATION SAMPLE PREDICTING ENROLLMENT IN THE CPP WITH SEX STEPPED IN FIRST

Variable	Regression Coefficient	Standard Error	Beta Weight	t-statistics	Unique Contribution	F-value+ to enter
SEX	.08	.06	.09	1.24	.04	10.29
CONTRIB	.08	.03	.16	2.45*	.02	4.83
WRITINGAC	.05	.02	.15	2.03*	.02	4.40
SFCINT	.08	.03	.17	2.93**	.01	4.39
ATHSR	-.09	.03	-.23	-3.80**	.04	9.57
EDVOC	.03	.01	.18	3.05**	.04	10.49
MOMED	.04	.01	.15	2.55**	.02	5.81
ATHOME	-.21	.08	-.15	-2.64**	.02	4.60

R = .48 R^2 = .23

TABLE 6

REGRESSION EQUATION DEVELOPED ON THE STANDARDIZATION SAMPLE PREDICTING CPP ENROLLMENT WITH ALL 40 PREDICTORS PERMITTED TO ENTER ACCORDING TO THEIR UNIQUE CONTRIBUTION TO CRITERION VARIANCE ACCOUNTED FOR

Variable	Regression Coefficient	Standard Error	Beta Weight	t-statistic	Unique Contribution	F-value+ to enter
ATHSR	-.090	.024	-.220	-3.75**	.07	17.13
EDVOC	.028	.009	.197	3.11**	.04	9.90
ACADSR	.091	.034	.161	2.68**	.03	8.98
MOMED	.036	.014	.148	2.57*	.03	6.90
WRITE	.071	.029	.144	2.45*	.02	5.54
ATHOME	-.164	.081	-.120	-2.02*	.01	4.11

R = .44 R^2 = .20

*Statistically significant at the .05 level.
**Statistically significant at the .01 level.

+$F_{.05}$ = 2.26 $F_{.01}$ = 3.11

hypothesis that students who are ready and willing to engage in CDM activities differ from the general college population in ways unrelated to CDM. Since EDUC appears in the enrollment equation it suggests CDM-related variables predict entry into a CDM program rather than amount of participation in the program.

Although a good deal of variance remains to be explained, these results appear to support the contention that engaging in CDM activities is systematically related to a number of background variables, suggesting in turn that "willing participants" differ systematically from the general college population in ways unrelated to CDM. Results of the analysis of the enrollment criterion indicate that variables related to CDM may have more importance in predicting entrance into a CDM program than in predicting amount of participation in that program.

The specific predictors which are included in the equations reported here are related to the type of student that comes to Alma College and the nature of the CDM program offered at Alma. The present study does not reveal whether these predictors would generalize to the population of college students. It seems reasonable to assume, however, that the specific predictors and their beta weights would only be valid for students similar to those at Alma (Mosier, 1951) who were offered a CDM program similar to the CPP. Thus the results of this study do not suggest recommendations based on the specific predictors or weights found in the Alma College samples.

The study demonstrated that participation in a CDM program can be reliably predicted using a small set of variables from readily available data. By using a similar analysis procedure educators could examine the concomitants of participation in their own CDM programs using already available data. The predictors thus derived could be used as covariates in an Aptitude-Treatment-Interaction evaluation study. In addition to improving evaluation research, information about the predictors of CDM program participation can be used by program developers to create more effective CDM programs for those who are already likely participants, or new programs to accomodate those who might not otherwise participate.

This study has also shown that, in a situation in which the most likely

explanations for not participating in a CDM program were an unwillingness to participate, or a lack of need for help in CDM skills, background variables do a better job of predicting participation than do CDM-related variables. This suggests that researchers should look for similar predictors of participation as they study the CDM process among students who are exposed to CDM programming.

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